

## CLAIMS

What is claimed is:

1. A spacecraft radiator system for use on a spacecraft having a body and a plurality of solar arrays, the system comprising:
  - first and second opposite facing payload radiators;
  - first and second opposite facing deployable radiators; and
  - 5 one or more coupling heat pipes that cross couple opposite facing payload and deployable radiators.
2. The spacecraft radiator system recited in Claim 1 wherein the one or more coupling heat pipes comprise loop heat pipes.
3. A spacecraft comprising:
  - a body;
  - a plurality of solar arrays;
  - a spacecraft radiator system comprising:
    - 5 first and second opposite facing payload radiators;
    - first and second opposite facing deployable radiators; and
    - one or more coupling heat pipes that cross couple opposite facing payload and deployable radiators.
4. The spacecraft recited in Claim 3 wherein the one or more coupling heat pipes comprise loop heat pipes.
5. A spacecraft heat dissipation method comprising the steps of:
  - configuring a spacecraft to have a body, a plurality of solar arrays, first and second opposite facing payload radiators, first and second opposite facing deployable radiators, and loop heat pipes cross coupling opposite facing payload and deployable radiators;
  - 5 launching the spacecraft into orbit; and
  - when in orbit, cross coupling heat coupled to the respective payload radiators to the opposite facing deployable radiator.